

Stepper Motors

116 mNm

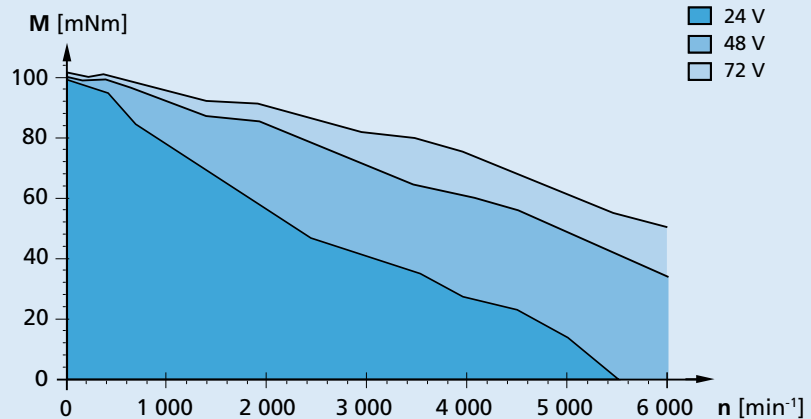
Two phase with Disc Magnet,
100 steps per revolution

Series DM52100S

Values at 20°C	DM52100S	3300	1300	
Nominal current per phase (1 phases ON)		3,3	1,3	A
Boosted current per phase (1 phases ON)		5	1,9	A
Phase resistance		0,7	4,4	Ω
Phase inductance (1 kHz)		1,3	8	mH
Holding torque at nominal current (1 phases ON)		116	116	mNm
Holding torque at boosted current		174	174	mNm
Residual torque, typ.		7	7	mNm
Back-EMF amplitude		2,2	5,82	V/k step/s
Electrical time constant	1,8			ms
Rotor inertia	$8 \cdot 10^{-7}$			kgm ²
Step angle (full step)	3,6			°
Angular accuracy	± 6			%
Angular acceleration, max.	$217 \cdot 10^3$			rad/s ²
Speed up to	5 000			min ⁻¹
Resonance frequency (at no load)	60			Hz
Thermal resistance	10			K/W
Thermal time constant	14			min
Operating temperature range	-20 ... +50			°C
Winding temperature, max.	+130			°C
Shaft bearings	ball bearings (Bearing code: 2R)			
Shaft load max.:				
– with shaft diameter	5			mm
– radial at 5 000 min ⁻¹ (5 mm from bearing)	54			N
– axial at 5 000 min ⁻¹	12			N
– axial at standstill	167			N
Shaft play:				
– radial	0,015			mm
– axial	0			mm
Housing material	Polyphenylensulfid (PPS)			
Mass	185			g
Magnet material	NdFeB			

Driver settings

Curve measured with a load inertia of $1,49 \cdot 10^{-5}$ kgm² on the DM52100S2R330000 motor using a Technosoft IDS640 controller in sin/cos control mode, 256 micro-steps per full step and a peak phase current of 3,3A.



Possible operation areas

